



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,893	11/06/2001	Edward E. Kelley	FIS920010167	5692

30743 7590 09/22/2005

WHITHAM, CURTIS & CHRISTOFFERSON, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

EXAMINER

ABRISHAMKAR, KAVEH

ART UNIT PAPER NUMBER

2131

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/992,893

Applicant(s)

KELLEY ET AL.

Examiner

Kaveh Abrishamkar

Art Unit

2131

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed on June 27, 2005. Claims 1-20 were originally received for consideration. Per the received amendment, claims 1,3,10,12,and 18 are amended and claim 4 is cancelled. Claims 1-3, 5-20 are currently under consideration.

Response to Arguments

2. Applicant's arguments with respect to claims 1-3, and 5-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (U.S. Patent 6,321,335).

Regarding claim 1, Chu discloses:

A method for altering a password stored in a secure electronic device,
comprising the steps of:

concatenating one or more scan chains to create a storage element (column 9
lines 11-33);

connecting the storage element to a comparator within an electronic circuit
wherein an output of the comparator enables a system component (column 9 lines 11-
33);

receiving a password from a user which becomes an original security id code
(column 3 lines 13-25, column 9 lines 11-33); and

configuring one or more said scan chains to customize the storage element
which represents said original security id code by blowing electronic fuses (column 9
lines 11-33).

Chu does not explicitly disclose "writing an update code over the original security id code to create a new security id code, whereby the new security id code is an OR-function product of the original security id code and the update code." However, Chu teaches programming a password using fuses (column 9 lines 11-25). Fuses are permanent, but the limitations of the above claims state that the new security id code is an OR-function product. Chu has the capability of updating a security code, by an OR function as well by blowing other fuses in addition to the already blown ones to create a

Art Unit: 2131

new password. Chu discloses that a password stored in flash memory can be changed if a user desires to change the password (column 8 lines 50-56). However, the fact that the permanent password (using fuses) is programmable, gives the user the ability to blow additional fuses which are not blown already to create a new password. This blowing of additional fuses is equivalent to the OR-function of an update code. Therefore, it would have been obvious to blow additional fuses (OR-function) if the user desires to change the password for well-known security issues including if the module is changing users, and to reduce the probability of the discovery of the password by changing the password periodically.

Claim 2 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 1, wherein the scan chains are composed of latches or registers and are accessible externally via one or more serial inputs or outputs (Figure 5 item 513, column 8 lines 1-15).

Claim 3 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 1, wherein the scan chains are sufficiently long in order to represent passwords of variable lengths and to contain a security id code of large magnitude (column 9 lines 11-33).

Claim 5 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 1, wherein the electronic fuses are blown if the current security code id is provided to enable the securing process to occur (column 9 lines 11-33).

Claim 6 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses: A method according to claim 1, wherein the password is compared by the comparator to contents of the storage element (column 9 lines 11-33).

Claim 7 is rejected as applied above in rejecting claim 1. Chu does not explicitly disclose validating the password for size limits and character content. However, Chu does disclose the user inputting the password which is permanently burned into memory using fuses. It was well-known in the art at the time the invention was made that password input schemes have length limitations, and when a user inputs a password longer than the acceptable password, a warning is flashed with the minimum and maximum password lengths. Furthermore, it was well-known in that art at the time the invention was made, that password input systems may require a certain string of numbers and letters, as in systems where require a combination of letters and numbers to stymie possible hackers from discovering the password. Using the two above well-known requirements in the password art in conjunction with the disclosure of Chu would provide a more secure and memory efficient password system, in which the password is constrained to a certain length and cannot occupy too much memory, and further is subject to character content requirements which allow the password to be more secure

Art Unit: 2131

and more resistant to hackers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a character content requirement and a length constraint to the password input of Chu to preserve memory and to make the password more resistant to hackers.

Claim 8 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 1, wherein the storage element is a plurality of storage elements (column 9 lines 11-33).

Claim 9 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 1, wherein the comparator is a plurality of comparators (column 9 lines 11-33).

Regarding claim 18, Chu discloses:

A secure electronic device with an alterable, fuse-encoded password, comprising:

a scan chain which is configured using electronic fuses to represent an original security id code (column 9 lines 11-33);

a comparator that compares a password entered by a system user to the original security id code (column 10 line 58 – column 11 line 15).;

an output of the comparator which can enable a electronic component or electronic device (column 10 line 58 – column 11 line 15).

Chu does not explicitly disclose “a fuse programmer for creating a new security id code by programming the fuses according to an update code, wherein the new security id code is an OR-function product of the original security id code and the update code.” However, Chu teaches programming a password using fuses (column 9 lines 11-25). Fuses are permanent, but the limitations of the above claims state that the new security id code is an OR-function product. Chu has the capability of updating a security code, by an OR function as well by blowing other fuses in addition to the already blown ones to create a new password. Chu discloses that a password stored in flash memory can be changed if a user desires to change the password (column 8 lines 50-56). However, the fact that the permanent password (using fuses) is programmable, gives the user the ability to blow additional fuses which are not blown already to create a new password. This blowing of additional fuses is equivalent to the OR-function of an update code. Therefore, it would have been obvious to blow additional fuses (OR-function) if the user desires to change the password for well-known security issues including if the module is changing users, and to reduce the probably of the discovery of the password by changing the password periodically.

Art Unit: 2131

Claim 19 is rejected as applied above in rejecting claim 18. Furthermore, Chu discloses:

An integrated security device as recited in claim 18 wherein the scan chain is a plurality of scan chains (column 9 lines 11-33).

Claim 20 is rejected as applied above in rejecting claim 18. Furthermore, Chu discloses:

An integrated security device as recited in claim 18 wherein the comparator is a plurality of comparators (column 9 lines 11-33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (U.S. Patent No. 6,321,335) in view of Kwak (U.S. Patent No. 6,687,843).

Regarding claim 10, Chu discloses:

A method for securing an electronic device, comprising the steps of:

concatenating one or more scan chains to create a storage element said storage element configured by electronic fuses to represent a system security id code (column 9 lines 11-33);

connecting the storage element to a comparator within an electronic circuit wherein the output of the comparator enables a system component (column 9 lines 11-33);

receiving a password from a user (column 3 lines 13-25, column 9 lines 11-33);
providing the password to the comparator (column 10 line 58 – column 11 line 15); and

comparing the password to the system security id code wherein the comparator output enables a system component (column 10 line 58 – column 11 line 15).

Chu does not explicitly state that the system component comprises of one or more of a scan chain required for operation, a phase lock loop required for operation and a system clock or clock distribution tree required for operation. However, Kwak (U.S. Patent No. 6,687,843) discloses comparing a signal to the address value and if its a possible match, a clock enable signal is generated to enable the clock (column 3 lines 34-63). Chu discloses that access to a hardware is restricted until the passwords are verified. Chu also states that access the access control can be electrical as it is in Kwak. Furthermore, Chu states that the software can turn a lock on which disables power unless the passwords match (Figure 6), which demonstrates that the scan chains (hardware) can not be accessed unless the passwords match. Kwak discloses that

Art Unit: 2131

disabling the clock can help reduce power consumption (see Abstract). Therefore, it would have been obvious to use the clock disablement feature of Kwak conjunction with the system of Chu to reduce power consumption.

Claim 11 is rejected as applied above in rejecting claim 10. Furthermore, Chu discloses:

A method according to claim 10, wherein the scan chains are composed of latches or registers and is accessible externally via one or more serial inputs or outputs (Figure 5 item 513, column 8 lines 1-15).

Claim 12 is rejected as applied above in rejecting claim 10. Furthermore, Chu discloses:

A method according to claim 10, wherein the scan chains are sufficiently long in order to represent passwords of variable lengths and to contain a security id code of large magnitude (column 9 lines 11-33).

Claim 13 is rejected as applied above in rejecting claim 10. Furthermore, Chu discloses:

A method according to claim 10, wherein the security id code is not alterable and cannot be read from the storage elements except by the comparator (column 9 lines 15-24).

Claim 14 is rejected as applied above in rejecting claim 1. Furthermore, Chu discloses:

A method according to claim 10, wherein the password is compared by the comparator to the contents of the storage element (column 9 lines 11-33).

Claim 16 is rejected as applied above in rejecting claim 10. Furthermore, Chu discloses:

A method according to claim 10, wherein the storage elements are a plurality of storage elements (column 9 lines 11-33).

Claim 17 is rejected as applied above in rejecting claim 10. Furthermore, Chu discloses:

A method according to claim 10, wherein the comparator is a plurality of comparators (column 9 lines 11-33).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 2131

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaveh Abrishamkar whose telephone number is 571-272-3786. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KA
09/16/2005

cel
Primary Examiner
AU 2131
9/18/05